amergraph CORPORATION

OWNER'S MANUAL

FOR

DESKTOP PROOFER
MODEL DP-28 SE

(MULTI-SPECTRUM METAL HALIDE)

*shown with optional drawers

7/02 **SERIAL NUMBER:_____-_____-_____**

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INTRODUCTION

Congratulations on the purchase of your new Amergraph Desktop Proofer. It is designed to give you many years of reliable, trouble free service with "built to last" quality, for which Amergraph is known.

Before installing and operating your machine, carefully read the installation and operating procedures so that you are thoroughly familiar with its operation. Certain procedures under the troubleshooting section of this manual should be performed only by competent service technicians experienced in handling high voltage, high power electrical circuits.

Every effort has been made to make the installation as simple as possible so that you can place your new unit into operation easily. Your Amergraph dealer is a specialist in Amergraph products and will provide you with assistance in installation and operation.

This manual contains installation, maintenance, and operating information for DP-28 SE exposure units. Please call your dealer, or Amergraph Corporation at 1-800-526-2852, with any questions or problems that you may have concerning your new exposure unit.

MODEL	P/N	ELECTRICAL SPECS.
DP-28 SE	50365	120 Volt, 60 Hz, 20 Amp
DP-28 SE	50366	240 Volt, 60 Hz, 12 Amp
DP-28 SE	50367	240 Volt, 50 Hz, 12 Amp

A product number appears on the ***Serial Number Label*** attached to the lamp reflector. Refer to this serial number when contacting your dealer or ordering parts.

POWER REQUIREMENTS

Installation of a dedicated power line must be made to provide sufficient power to your unit for efficient operation. Failure to have sufficient power will result in damage to the power supply and will void the warranty on the unit. The unit **must** be connected to an approved electrical ground to protect the user from electrical shock hazard. See your local electrician for advice and service.

120 VOLT UNITS are supplied with a ground power cord and 3 prong plug.
Never substitute or replace the plug with one of lesser amperage rating.
The ground prong must never be defeated from use.
A wall receptacle should be installed **within four feet** of the bottom right rear corner of the unit.

These units are rated at 20 AMPS and are designed to operate on 120 VOLTS, 60 HERTZ, SINGLE PHASE POWER ONLY.

240 VOLT UNITS are supplied with 3 pigtails and must be hard wired in conformity to all existing local electrical codes. See your local electrician for advice and service.

These are rated at 12 AMPS and are designed to operate on either 205-245 VOLTS, 60 HERTZ, SINGLE PHASE POWER, or 205-245 VOLTS, 50 HERTZ, SINGLE PHASE POWER only.

FUSES

The protective fuses are located at the bottom rear corner of the unit.
THE 120 VOLT MODELS have 2 fuses.
THE 240 VOLT MODELS have 4 fuses.
The high rated fuses protect the power supply. The lower rated fuses protect the control circuits, integrator, and vacuum pump.
Do not substitute fuses of values and types other than indicated, as serious damage will result.

120 VOLT MODELS

TOP FUSE	BOTTOM FUSE
10 Amp Type MDA 10	25 Amp Type MDA 25

240 VOLT MODELS

TOP FUSES	BOTTOM FUSES
5 Amp Type MDA 5	15 Amp Type MDA 15

INSTALLATION

CAUTION – EXTREMELY HIGH VOLTAGE!

All AMERGRAPH EXPOSURE SYSTEMS should be installed by competent service technicians experienced in servicing and operating *high voltage, high power electrical circuits*. Amergraph Corporation assumes no liability for injury resulting from operation or servicing of this equipment.

The AMERGRAPH DP-28 SE EXPOSURE SYSTEM is completely assembled except for the following.

- Lamp: shipped inside Hardware Package, taped to skid in front of unit.
- Leveling Feet: shipped inside Hardware Package, taped to skid in front of unit.
- Various Options: shipped on top of packed unit

SET UP

1. Remove the 4 bolts securing the unit to the pallet with a 1/2" wrench.

2. Shift the unit on the pallet so that the four corners are exposed, and install the 4 leveling feet, one in each corner. The leveling feet **MUST BE INSTALLED ON THE UNIT TO ENSURE PROPER VACUUM DRAWDOWN.**

3. Place the unit on the optional work stand (requires no assembly) or on a sturdy work table. It is advisable that **enough** individuals assist in the moving by firmly supporting each corner. THE DP-28 CAN PASS THROUGH A 30" OPENING BY FOLLOWING THE GUIDE ON THE NEXT PAGE.

4. Position the unit so that the blower exhaust opening on top of the unit has at least 6" (15cm) of clearance. Blocking of this opening will seriously affect the operation of the unit.

5. Remove the clamp in the upper left corner that secures the vacuum frame to the unit. A Phillips head screwdriver is required.

6. Place a machinist's level or spirit level on the top surface of the cabinet frame and level the machine by adjusting the leveling feet in the four corners. Do not level the machine by placing the level on the vacuum frame.

7. Place the unit on a **dedicated service line** of the required amperage.

GUIDE FOR PASSAGE OF THE DP-28 THROUGH A 30” OPENING

The lower panel must be removed to create a front to rear dimension of less than 30”.

- Remove the 4 plastic caps that plug the large holes on the left and right sides of the cabinet containing the screws that secure the lower panel.
- Remove those four side screws and three more screws found on the bottom of the lower panel. A Phillips head screwdriver is required.

The unit can then be moved through the opening sideways.

After the unit has passed through the opening, replace the lower panel and the 4 plastic caps.

CHECKING PROPER OPERATING VOLTAGE ON 120 VOLT MODELS

*****CAUTION*****

This procedure should only be performed by qualified service personnel experienced in servicing high voltage, high power, electrical circuits.

A line voltage check should be made at the time of installation to make certain the unit has adequate power and that the house circuit is of sufficient size.

1. Check the wall outlet for proper voltage and ground. Record the voltage.
2. Plug the unit into the wall receptacle. Turn on the *main power switch* and *vacuum pump switch*. Then press the *LAMP ON* button on the keypad of the Scroll Set Integrator.
3. Measure line voltage at the wall plug while under load. If the line voltage load is **less than 114 volts**, there is insufficient service. Corrective action should be taken to remedy the problem. Turn off the light by pressing *CANCEL* on the keypad of the Scroll Set Integrator. Then turn the *vacuum pump switch* and *main power switch* off.

SELECTING PROPER OPERATING VOLTAGE ON 240 VOLT MODELS

*****CAUTION*****

This procedure should only be performed by qualified service personnel experienced in servicing high voltage, high power, electrical circuits.

THE 240 VOLT MODELS operate within a voltage range of 205-245 volts. To obtain maximum operating efficiency, an adjustment must be made at the power supply to match the normal line voltage to the input of the power supply.

Before making any adjustment, disconnect the power to the machine by removing the wall plug or shutting off the disconnect switch. Then remove the top and rear panels of the main cabinet to access the power supply.

Locate the YELLOW wire #14 connected to the terminal board on the power supply bearing the tap values, 208, 220, 240 volts. After measuring the line voltage, connect the YELLOW wire #14 to the terminal closest to the normal line voltage. **Should the line voltage be below 205 volts or above 245 volts, there is improper voltage and the unit should not be operated until the deficiency in power is corrected.** Your local electrician and power utility can assist you in this matter.

LINE VOLTAGE	TRANSFORMER TAP
205-214	208V
215-224	220V
225-245	240V

It is suggested to measure the voltage at the power outlet while the unit is operating. If the line voltage falls into a different range than when originally measured, move the YELLOW wire #14 to the next recommended tap.

*****IMPORTANT*****

Replace the cover on the power supply. Otherwise, damage to the power supply and lamp will result from inadequate cooling.

INSTALLING THE LAMP

CAUTION!

DO NOT INSTALL LAMP UNLESS THE POWER HAS BEEN TURNED OFF AT THE POWER SOURCE.

IMPROPER LAMP INSTALLATION WILL DAMAGE THE LAMP ENDS AND SOCKETS.

DO NOT HANDLE THE GLASS QUARTZ SURFACE OF THE LAMP.

Handle the lamp only with cotton gloves or a clean cloth. If the lamp surface is accidentally touched, wash the lamp with isopropyl alcohol to remove all traces of fingerprints, grease or oil. (Be sure the lamp is dry before installation.) Failure to clean the lamp will result in premature failure.

IMPORTANT:
FOR DP-28 MODELS, USE ONLY **AMERGRAPH** LAMP P/N 10725.

THE USE OF SUBSTITUTE LAMPS will result in premature failure and possible damage to the electrical circuitry and WILL VOID ALL WARRANTIES!

1. ***Carefully*** insert one end of the lamp into one of the lamp sockets.

2. ***Do not "snap" or force*** the other lamp end into the other socket. Rather, compress both sockets to gently insert the other lamp end.

3. Without handling the glass quartz surface, position the lamp ***with the tip of the lamp pointing up.***

4. Rotate the lamp front to rear several times to check proper seating of the lamp. The lamp should rotate smoothly. If the rotation feels gritty, remove and reinstall the lamp.

OPTIONS

STORAGE DRAWERS/STAND

The storage drawers/stand, shown on the cover, can be added at any time. They are completely assembled in their own packaging. Simply unpack them and set them up under the exposure unit. Be sure to properly level the exposure unit when it is on top of the drawers/stand.

PROOFING FILTER AND ATTENUATOR

Your exposure unit can be equipped with an optional attenuator (60% light reduction) or proofing (Kokomo) filter. To install either, first attach the included bracket to the top of the exposure area inside the cabinet, using the existing holes. Then slide the proofing filter or attenuator into position on the brackets. Make test exposures and record the data. To resume normal operation, slide the proofing filter or attenuator out of the unit.

USE AS A CONTACT FRAME

The DP-28 SE can also be used as a contact frame with an external source. By placing a lamp over the center of the unit, an exposure can be made with the vacuum frame in the load position (horizontal). Position the lamp so that it is 36" to 40" inches above the center of the glass. Check to see that the light covers all 4 corners of the frame.

OPERATING CONTROLS

POWER SWITCH

Press in the top of this switch to supply the main power to the machine.

VACUUM PUMP SWITCH

The DP-28 has Auto Vacuum, meaning that the vacuum pump is automatically started and stopped by the integrator. If you wish to use the vacuum independently, you may do so by pressing in the top of this switch. When the vacuum pump has been turned on and the frame has reached a vacuum of at least 10" of mercury on the gauge, the vacuum should not be restarted until the vacuum bleeds to zero.

VACUUM GAUGE

This gauge indicates inches of mercury of vacuum left in the frame. Normal operating vacuum at sea level is 24" of mercury. Higher elevations will result in lower vacuum readings.

VACUUM REGULATOR

The regulator controls the amount of vacuum in the vacuum frame. Rotate the knob to achieve the desired setting on the vacuum gauge. Do not over tighten or force this valve as damage to the valve may result.

SAFETY INTERLOCK SWITCH

The automatic safety interlock device prevents the unit from being operated in other than its intended sequences. The lamp cannot operate unless the vacuum frame has been placed in the exposure position (inside the unit). Should the vacuum frame be lowered during a cycle, the exposure lamp will be automatically extinguished.

SCROLL SET INTEGRATOR

The integrator controls the exposure sequence. Operation Instructions start on the next page.

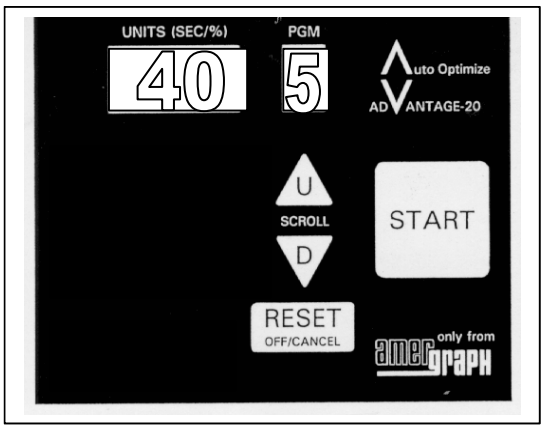
INSTANT START LAMP

The DP-28's instant start Multi-Spectrum Metal Halide lamp only operates during an exposure. Therefore, considerable savings in power costs result in comparison to other types of exposure units using lamps which operate continuously with the aid of a shutter. In addition, via the patented Megalume® lighting system, Amergraph's exclusive "true instant start" technology allows the lamp to restart at all times – even while the lamp remains hot. This *hot restrike* feature **eliminates** the cool down time required to restart the lamp for the next exposure. Since you can reload and expose plates in rapid succession, Amergraph's Megalume® instant start technology largely increases your production.

SCROLL SET INTEGRATOR for the DP-28 SE
OPERATING INSTRUCTIONS

This page will show you how to operate your exposure unit and how to find the best program to provide proper exposure for your materials. **The keys that are used are shown on the right.**

MAIN KEYS
Note: No Period After 5



1. **TURN MAIN POWER ON.**

2. **LOWER THE VACUUM FRAME AND LOAD IT** with a Gray Scale on your material. Then close the glass and lock the frame; but leave the frame in the horizontal position.

3. **FOR A 40 UNIT TEST EXPOSURE, SCROLL TO PROGRAM 5** (without a period following the number) using **U** or **D** for up or down, respectively.

4. **PRESS THE START KEY TO RUN THE TEST EXPOSURE.** When the vacuum pull is sufficient, move the vacuum frame into the unit (the exposure position).

5. **PRESS RESET WHEN THE EXPOSURE IS COMPLETE,** indicated by a display reading of **EC.**

6. **EVALUATE THE TEST IMAGE** after processing your materials to determine if you need more or less exposure than 40 units.

- Count up from 5 *one program number for each step on the Gray Scale* you wish to increase your exposure.
- Count down from 5 *one program number for each step on the Gray Scale* you wish to decrease your exposure.
- Note the program number determined to give the best exposure.

7. **LOAD THE VACUUM FRAME WITH PRODUCTION MATERIALS,** lock it, and leave it in the horizontal position, as done in step 2 above.

8. **SCROLL TO THE PROGRAM DETERMINED TO PROVIDE THE BEST EXPOSURE** (without a period) using **U** or **D.**

9. **RUN THE DRAWDOWN/EXPOSURE SEQUENCE** as done in step 4 above.

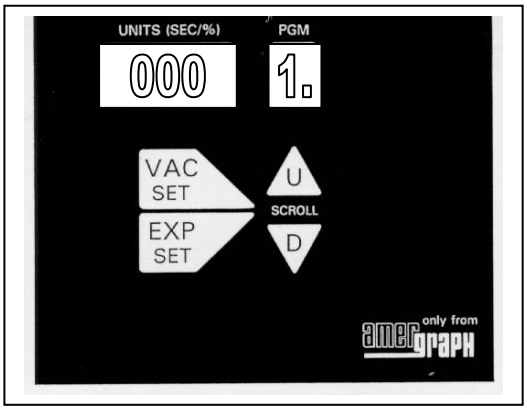
10. **PRESS RESET WHEN THE EXPOSURE IS COMPLETE,** indicated by **EC**.

Be Sure To Note The Program Number For Each Material.

CUSTOM PROGRAMMING

This page will show you how to custom set programs. Vacuum delay seconds and exposure units can be customized on the 10 program numbers followed by a period. **The keys used are shown on right.**

MAIN KEYS
Note: Period after 1



TO SET YOUR CUSTOM PROGRAM:

1. Scroll using the **U** (up) or **D** (down) arrows to any program numbered 1. through 0. (with a period following the number). These programs are left blank by the factory.

2. SET EXPOSURE UNITS IN THAT PROGRAM:
   - Press and hold **EXP SET**.
   - While holding, press **U** or **D** to scroll to the exposure units desired.
   - When the desired units appear, release **EXP SET**.

3. SET THE VACUUM DELAY:
   - Press and hold **VAC SET**.
   - While holding, press **U** or **D** to scroll to the desired seconds.
   - When the desired time appears, release **VAC SET**.

   To display the drawdown time in the current program, press and hold **VAC SET**.

TO RUN YOUR CUSTOM PROGRAM:

1. Scroll using the **U** (up) or **D** (down) arrows to the program (with a period following the number) you want to run.

2. Load the vacuum frame with production materials, and leave it in the horizontal position.

3. Press **START.** When the vacuum pull is sufficient, move the vacuum frame into the unit.

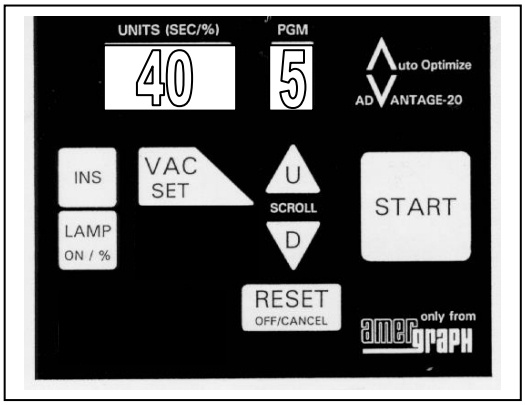
4. Press **RESET** when the exposure is complete, indicated by **EC**.

Be Sure To Note The Program Number For Each Material.

ADVANCED FEATURES

This page will show you how to use three advanced features: pausing drawdown for visual control, testing the lamp, and how to set vacuum time in all programs at once.

MAIN KEYS



INSPECT: Allows you to manually control the vacuum drawdown and start the exposure when you are satisfied the drawdown is proper.

After '**START**' has been pressed to begin a program:

- Press '**INS**' to stop the vacuum delay countdown. The UNITS display will read "INS"**.** Inspect the vacuum as it continues to draw down.
- When you are satisfied with the vacuum drawdown, move the vacuum frame into the unit, and press '**START**' to begin the Exposure.

LAMP TEST: Allows you to manually turn on the lamp to approximate the amount of life left in the lamp.

- Press '**LAMP ON**'. Allow the lamp to remain lit for <u>2 to 3 minutes</u>.
- Press '**LAMP ON**' again. The display will rapidly count to a number and hold. This number approximates the percentage of life left in the lamp, *provided the unit was correctly calibrated with that particular lamp when that lamp was new.* NOTE: Optimum performance is obtained when the lamp life remains above 70%.
- Press '**RESET**' to turn the lamp OFF.

VACUUM SET: Allows you to change the vacuum delay time in <u>all programs at once</u>. (The factory pre-set vacuum time is 35 seconds.)

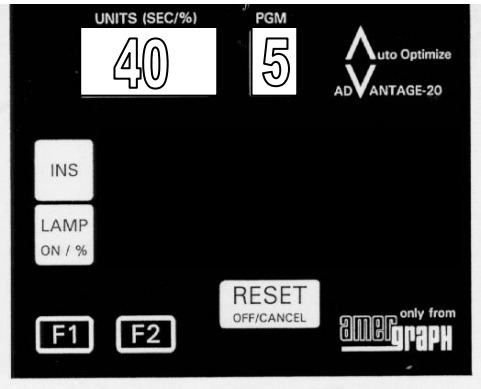
- Scroll to Program **U** using **U** (up) or **D** (down) arrow.
- Press <u>and hold</u> '**VAC SET**'.
- <u>While holding</u>, scroll with **U** or **D** to desired seconds.
- <u>Release</u> '**VAC SET**'.

*If you press and hold '**VAC SET**' after this procedure, you will see the drawdown time for all programs.

ADVANCED FEATURES
CONTINUED

This page will show you how to manually control the lamp and how to define and use the function keys, F1 and F2.

MAIN KEYS



MANUAL OPERATION: You may want to conduct a one time exposure and not save your settings. This function allows you to manually control the lamp as the integrator counts exposure units for you.

- Press '**LAMP ON**' to turn the lamp **on**. The display counts up exposure units.
- Press '**RESET**' to turn the lamp **off**.

FUNCTION KEYS: F1 and **F2**. From the options shown below, you can choose which Function the keys will perform. Once selected, the key will act as a toggle switch (on or off) in the selected program.

PROGRAM SYMBOL	ACTION
G	GO TO – Alternates with each push between the last program used, and Program 5.
E	Increases Exposure by 10% or compensates for an additional film base with density of 0.04. The exposure units on a current Program will be temporarily increased by 10% for each push of the Function Key.
. (Period)	Programs Exposure to tenths of a unit, or goes back to normal units on the programs with a period following the number.
▬	De-activates the function key. (Do Nothing)

TO PROGRAM A FUNCTION KEY TO DO THE ACTION OF YOUR CHOICE:
- Scroll to the Program Symbol (G, E, •, or, ▬) you wish to have the function key do.
- Press the function key you wish to perform the action.

TO PERFORM THE PROGRAMMED FUNCTION:
- Scroll to the desired program and press the function key you have selected.
- Then press **'START'**.

CALIBRATION for the DP-28 SE

This page will show you how to calibrate your equipment **if necessary**. A new lamp should be used as this procedure will reset the "LAMP TEST" feature. You will want to measure your lamp's UV as compared to a new lamp.

The Integrator was calibrated at the factory and will not need calibration unless the Lamp Test with a new lamp does not show a number between 80 and 120.

Before beginning this procedure, make note of the following.

- The photosensor is located inside the unit, upper front right, behind the light baffle.
- The photosensor is adjusted by hand.
- A slight rotation of the photosensor greatly affects calibration.

- Press '**LAMP ON**'. Wait about 2 minutes for the lamp temperature to stabilize. *Make every effort to maintain the lamp's temperature throughout the entire procedure.*
- Press '**RESET**' to turn the lamp off.
- Press '**LAMP ON**' 2 times. Take note of the number to which the read out scrolls.
- Press '**RESET**' to turn the lamp off.
- Open the door of the unit.
- Adjust the photosensor according to the number noted above. Aim for the range 90-110.

  If the number is low, rotate the photosensor *toward the light source* to see *more* light.
  If the number is high, rotate the photosensor *away from the light source* to see *less* light.
- Close the door of the unit.
- Repeat pressing '**LAMP ON**' 2 times to see where the read out stops. If the number is not within range, rotate the photosensor as necessary and repeat the procedure.
- Once the read out stops at a number in range, allow the lamp temperature to stabilize, and perform the following steps in rapid succession.
- Scroll to Program **C**; then press and hold '**EXP SET**'.
- While holding '**EXP SET**', press '**START**'.
- Release '**EXP SET**' and '**START**'. The counter will increase to a number and hold. The number should be between 90 and 110, just as it was in the step above.
- Press '**START**'. The display will read "CAL".
- Calibration is now complete. Press '**RESET**' to resume normal operation.

MAINTENANCE

Your AMERGRAPH DP-28 EXPOSURE SYSTEM has been designed to require a minimum of maintenance. Like all mechanical equipment, periodic maintenance will prolong the life of the unit. The glass and the vacuum blanket are of particular importance.

The GLASS should be kept clean using any commercial non-abrasive glass cleaner. Dust particles can cause spots of unexposed areas on your plate.

The BLANKET should be kept clean of dust by periodic vacuuming. The rubber seal should be cleaned with blanket wash. An occasional application of rubber roller rejuvenator will keep the seal pliable.

The VACUUM PUMP is oil-less and requires no service. It is located behind the rear panel.

The REFLECTOR is made of a special material that reflects ultra violet light. It is therefore important that it be kept clean. A dirty reflector will cause longer exposures and uneven distribution of light across the vacuum frame.

CAUTION: *Be certain to disconnect power to the unit before cleaning the reflector to prevent an electrical shock from the terminals on the ends of the lamp.*

Use a non-abrasive glass cleaner to clean the reflector. **CAUTION:** *DO NOT SPRAY THE CLEANER ON THE LAMP*. Spray the cleaner on a cloth first and then apply it to the reflector.

The EXPOSURE LAMP in your machine is designed to give you several thousand ignitions. However, lamps are unpredictable in life expectancy, and as a result, may cease when least expected. It is, therefore, recommended that a spare lamp be kept on hand at all times to prevent any inconvenience should a lamp require replacement. You can purchase an **authentic Amergraph spare lamp** from your authorized Amergraph dealer.

The IN-LINE AIR FILTER protects the vacuum system from damage due to dust and dirt.

CAUTION: *Be certain to disconnect power to the unit before performing any maintenance function to prevent electrical shock.*

The air filter is located in the rear of the unit. To access the filter, remove the rear panel. The filter can then be easily spotted. Replace the filter if it appears to be dirty. The air filter part # is 20678.

When finished, be sure to replace the rear panel.

All painted finishes can be wiped clean with a damp cloth.

PARTS LIST for the DP-28 SE

Description	Number	Description	Number
Air Filter	20678	Blanket	20629
Blower 120V	10144	Blower 240V	10065
Digital PC Board	10845A	Fuse: MDA 5 Amp	10166
Fuse: MDA 10 Amp	10147	Fuse: MDA 15 Amp	10165
Fuse: MDA 25 Amp	10817	Fuse Holder	10745
Keypad	10820	Lamp	10725
Lamp Socket w/ Leads	10142	Leveling Feet	20081
Photosensor	10323	Pneumatic Shock	20627
Power Switch	10724	Relay	10067
Safety Magnet	21729	Safety Sensor	10819
Vacuum Gauge	21402	Vacuum Pump: 50Hz	10066
Vacuum Pump: 60Hz	10101	Vacuum Regulator Knob	21684
Vacuum Regulator Valve	20623	Vacuum Switch	10723

REPLACEMENT GLASS

Replacement glass for above the vacuum blanket cannot be shipped from the factory. In the event that the glass becomes either scratched or broken, contact your nearest glass manufacturer and order the following.

Clear (i.e. free of imperfections like knots, etc.)**, Not tempered 26 1/2'' x 30 1/2'' x 1/8'' Polished Plate glass, with Flat Ground edges and Dubbed corners.**

TROUBLESHOOTING

This section contains troubleshooting information to determine the causes of common occurrences during operation, along with corrective action to be taken when the fault has been isolated.

CAUTION

Troubleshooting should be accomplished by qualified service personnel who are experienced with high voltage, high power electrical circuits. Care should be exercised at all times to prevent accidental electrical shocks and exposure to ultraviolet radiation. The Amergraph Corporation assumes no liability for injury resulting in the servicing or operation of this unit.

TROUBLE	PROBABLE CAUSE	REMEDY
Lamp does not light when start button is pressed.	1) Integrator not programmed for exposure units on current program	1) Press LAMP ON to manually check lamp start. Turn off with CANCEL. Refer to operating instructions to program the exposure units.
	2) Safety interlock switch not activated	2) Check proper position of vacuum frame. Check switch with continuity tester.
	3) Blown fuse(s)	3) Replace fuses with proper type and replacement value.
	4) Defective lamp	4) Replace lamp with correct lamp.
	5) Defective relay	5) Replace relay.
	6) Defective power supply	6) Check input voltage at power supply when relay is energized. If no voltage is present, have supply repaired.
Light comes on when cold, but will not restrike.	1) Not on dedicated power line	1) Place on dedicated line.
	2) Defective lamp	2) Replace lamp with correct lamp.
	3) Low line voltage	3) Measure voltage at wall or relay. If voltage is not correct, perform voltage adjustment.
	4) Defective power supply	4) Have power supply repaired.

TROUBLE	PROBABLE CAUSE	REMEDY
Blower does not run when lamp is operating.	1) Blower defective	1) Replace blower.
	2) Defective wiring	2) Repair wiring.
Lamp comes on, but does not shut off.	1) Photocell not properly calibrated	1) Recalibrate photocell.
	2) Defective photocell	2) Replace photocell.
	3) Defective integrator	3) Have PC boards checked.
Exposure times getting very long.	1) Lamp near end of life	1) Replace lamp with correct lamp.
	2) Dirty reflector	2) Clean reflector.
	3) Low line voltage	3) Check line voltage as before.
Only slight vacuum is registered on gauge.	1) Vacuum valve open	1) Make sure vacuum regulator knob is fully closed. (clockwise)
	2) Incorrect adjustment of glass hinge pivot	2) Check glass on hinge pivots. Adjust if necessary or replace.
	3) Bad seal on rubber blanket	3) Wet surface of bead and check for leaks while vacuum draws down. If seal has leaks, replace blanket.
	4) Leak in vacuum hose	4) Check all hose fitting for leaks. Replace if necessary.
	5) Defective pump	5) Check vacuum at pump. Replace if pump cannot pull vacuum.
Vacuum gauge reads full vacuum, but frame lacks contact pressure.	1) Clogged vacuum hose line	1) Place finger over hole in blanket while vacuum pump runs. If vacuum pull is weak, clean or replace hoses.
	2) Plugged air filter	2) Change filter.
Vacuum pump does not run.	1) Defective switch	1) Check continuity of vacuum switch. Replace if defective.
	2) Defective pump	3) Replace pump.

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3 YEAR LIMITED WARRANTY

The following is made in lieu of all warranties expressed or implied.

Amergraph Corporation warranties its products, with the exception of presses, vacuum blankets, lamps and consumable items, to be free of manufacturing defects for a period of three (3) years from date of manufacture. Lamps and vacuum blankets are consumable items and their warranty is covered below. Amergraph Corporation shall replace or repair at its discretion, any part exclusive of labor to diagnose, remove and install, which upon examination by Amergraph, is determined to be defective in material or workmanship, providing such claimed defective material is, upon written authorization, returned to Amergraph Corporation, freight pre-paid. All warranty items are F.O.B. factory.

All electrical, commercial supply parts and items not manufactured by Amergraph shall carry the warranty of the original manufacturer and no more, but under no circumstances to exceed the "limited warranty."

The warranty shall be void if an original Amergraph lamp is not used, and other parts replaced or substituted, not of Amergraph manufacture or supplied by Amergraph.

This warranty shall be of no force or effect if alterations or modifications of any nature are made by the purchaser without Amergraph's full knowledge and written consent.

Replacement parts shall be warrantied for a period of 90 days from the date of purchase.

If there is a defect in glass used in an Amergraph product, it must be reported within twenty-four (24) hours after receipt of the equipment. Amergraph assumes no responsibility for a claimed defect on the glass other than within the time period specified.

Warranty labor shall only apply if the machine, assembly or part is returned to the factory freight pre-paid and insured.

Amergraph assumes no responsibility for losses of material, labor, production time, any injury, loss or damage, direct or consequential resulting from the operation of, or use, or the inability to use the product other than specifically covered in this warranty.

Damage or breakage through misuse or while in-transit is not covered by this warranty.

All claims against the warranty shall be the final determination of the Amergraph Corporation.

LAMPS

Lamps UV output decreases with time of usage and can fail at any time. On the average, lamps should ignite several thousand times or have a service life of months. Because the UV output degrades with time, a lit lamp may not be a good lamp. A blackened lamp housing clearly indicates a post-service life condition, and signals time for replacement. Abnormally long exposure times also indicate a post-service life condition.

Amergraph lamps that fail in the first 90 days from the date of manufacture should be returned to Amergraph, postage prepaid and insured, accompanied by an explanation of the type of failure. Amergraph will inspect the lamp and if the failure was, in Amergraph's opinion, due to faulty material or workmanship, a partial or full replacement will be provided.

VACUUM BLANKETS

Blankets become less flexible and resilient and require replacement over time. Proper precautionary measures should be taken to ensure the life of the vacuum blanket.

Amergraph vacuum blankets that appear to have defects in material or workmanship, within the first 90 days from the date of manufacture, should be returned to Amergraph freight prepaid and insured, accompanied by an explanation of the type of defect. Amergraph will inspect the vacuum blanket and if the defect was, in Amergraph's opinion, due to faulty material or workmanship, it will be repaired or a partial or full replacement will be provided.